

# Veterinary and Comparative Biomedical Research

## CASE REPORT

### Feline Dystocia: A Case Report

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#### Abstract

The duration of parturition in cats has been reported to last up to 42 hours, and cats possess a zonary placenta. Feline dystocia is defined as an abnormality in the birth canal, including pelvic stenosis or incomplete cervical dilation, occurring within 6 to 12 hours after the onset of labor. The management of dystocia depends on the underlying etiology, findings from the physical examination, and the type of uterine inertia, ranging from manual vaginal manipulation to cesarean section—typically accompanied by the administration of oxytocin and calcium gluconate. A pregnant cat presenting with dystocia was referred to the veterinary clinic at Shahid Chamran University in Ahvaz. Following aseptic preparation of the perineal and maintenance of aseptic conditions, a thorough physical examination and ultrasonography were performed. Two dead fetuses were identified in sonogram. The obstetrician manually located the remaining fetuses and repositioned them in alignment with the birth canal. Using lubricating gel to facilitate fetal expulsion and employing obstetrical forceps with gentle, intermittent traction to prevent fetal trauma, the fetuses and their attached placentas were carefully extracted. The fetuses were in a posterior and longitudinal presentation, and the obstetrician successfully performed fetal extraction. One week later, with the administration of prescribed pharmacotherapeutics and adherence to a recommended dietary regimen, the queen's general condition was restored to full health, and uterine discharge was devoid of blood and purulent material.

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## Introduction

Feline gestation lasts approximately 65 days. The process of parturition is divided into three stages. The first stage is characterized by uterine contractions and progressive cervical dilation. The queen may exhibit vocalization, restlessness, and tachypnea. The second stage of parturition involves the expulsion of the fetus through the dilated cervix. Typically, the queen delivers her first neonate within one hour after the onset of the second stage, with subsequent neonates delivered at intervals of 10 to 60 minutes. The duration of parturition in cats has been reported to extend up to 42 hours. The third stage involves the expulsion of the fetal membranes. Additionally, cats possess a zonary placenta (1). Few studies have been conducted on feline dystocia, particularly regarding biochemical parameters, therapeutic protocols, neonatal survival rates, and outcomes of dystocia in emergency settings. Dystocia in cats is defined as an abnormality in the birth canal, including pelvic stenosis or incomplete cervical dilation, occurring within 6 to 12 hours after the onset of labor (2). Physiological stress may delay the initiation of labor (3). Primary and secondary uterine inertia are among the main causes of birth canal obstruction. Primary uterine inertia refers to a defect in the contractile ability of the uterine myometrium, while secondary inertia results from birth canal obstruction accompanied by fetal malposition and excessive pressure (4). The etiology of dystocia may be attributed to fetal macrosomia or fetal malformation. Fetopelvic disproportion and abnormal fetal positioning complicate delivery (1). Uterine torsion is a rare cause of dystocia (5). Overall, 67.1% of cases are associated with maternal factors, while 29.7% are related to fetal factors (6). In one of the few studies on the prevalence of feline dystocia, it was demonstrated that dystocia occurred in 5.8% of cases, with 2,928 neonates affected out of 735 parturitions. Notable breed predispositions were observed; for example, in a mixed-breed feline population, the dystocia incidence was 0.4%, whereas in Devon Rex neonates, the incidence was 18.2%. Purebred neonates are more susceptible to dystocia than mixedbreed neonates. The dystocia incidence is significantly higher in dolichocephalic and brachycephalic breeds compared to mesocephalic breeds (7). The management of dystocia varies depending on the underlying etiology, findings from the physical examination, and the type of uterine inertia, encompassing both medical and surgical interventions (8). Depending on the nature of the complication, medical management ranges from manual vaginal manipulation to cesarean section,

typically accompanied by the administration of oxytocin and calcium gluconate (1).

## Clinical History

On 1403/01/29, a 10-month-old pregnant domestic shorthair (DSH) queen was referred to the Clinical Department of Shahid Chamran University, Ahvaz. According to the owner's history, active labor began at 06:00 on the previous day and two viable neonates were delivered; a subsequent fetus was reported stillborn approximately 16 hours later. On presentation the queen's rectal temperature was 38.7 °C; heart rate and respiratory rate were 120–140 beats per minute and 16–40 breaths per minute, respectively. Uterine discharge was sanguineous and malodorous, and the queen exhibited vocalization, restlessness and tachypnea.

The queen was moved to a quiet, low-stress examination area and gently restrained in dorsal recumbency for obstetric assessment. Aseptic preparation of the perineal and caudal abdominal area was performed by clipping hair and cleansing the skin with an antiseptic solution followed by sterile saline irrigation; a sterile drape was applied and sterile instruments and single-use sterile gloves were used throughout the procedure. Abdominal ultrasonography was performed to determine fetal number, viability and presentation. Monitoring included repeated assessment of rectal temperature, heart rate and respiratory rate on admission and reassessment during and after the intervention, as well as visual evaluation of mucous membrane color and uterine discharge and continuous observation for changes in mentation or respiratory effort. Water-soluble sterile lubricating gel was used during vaginal manipulation to minimize mucosal trauma and reduce contamination.

Pharmacotherapeutic management was performed according to standard veterinary protocols. The queen received Ringer's lactate (50 mL, IV infusion, once daily for 2 days) and Duphalyte (3 mL, IV, once daily for 2 days) for fluid and metabolic support. Oxytocin (10 IU, slowly IV, twice daily for 2 days) was administered to stimulate uterine contractions. Prednisolone acetate (20 mg, IM, once daily for 3 days) was used as an anti-inflammatory agent, and ampicillin (250 mg, IM, once daily for 3 days) was administered as a broad-spectrum antibiotic.

The procedure was conducted in accordance with the ethical guidelines for the use of animals in clinical practice. Informed consent was obtained from the owner prior to the intervention.

On admission, a complete blood count (CBC) and serum biochemical analysis were performed to assess the queen's systemic status and rule out underlying metabolic or infectious conditions. The results are presented in Table 1. Abdominal ultrasonography was performed, and two dead fetuses were identified. The fetuses were in anterior and posterior longitudinal presentation within the birth canal. The fetus membranes were ruptured. The first fetus was delivered in a posterior presentation. The second fetus exhibited ventral neck deviation (vertex) and, following manual correction, was delivered in an anterior presentation (Figure 1).

**Table 1.** Results of the blood tests in the queen.

Parameter	Value	Normal range
MCV (fl)	46	39-55
MCH (pg)	15.39	12-17.5
RBC( $\times 10^4/\mu\text{l}$ )	8.64	5-10
WBC( $\times 10^3/\mu\text{l}$ )	19309	5500-19500
Hb(g/dl)	14	8-15
PCV (%)	38	24-45
EOS (%)	5	2-12
Mon (%)	2	1-4
Lym (%)	29	20-55
Neut segmented (%)	62	35-75
Ca ( $\frac{\text{mg}}{\text{dl}}$ )	6.38	6.2-10.2
P ( $\frac{\text{mg}}{\text{dl}}$ )	7.33	4.5-8.1

## Discussion

Dystocia in queens is an uncommon condition, with reported incidence rates varying between 0.4% in mixed-breed feline populations to approximately 5.8% in broader studies (7). Due to its rarity, cesarean section remains the preferred and most frequently employed intervention for dystocia in cats, providing a controlled and often safer environment for fetal and maternal outcomes (6). However, in the present case managed at the obstetrics department of Shahid Chamran University, manual extraction of the fetuses was successfully performed without resorting to surgical intervention. Based on clinical experience in this case, the queen was provided with a balanced diet tailored to support postpartum recovery, including avoidance of high-fat, spicy, and salty foods, and limitation of dry foods. Cooked chicken bones and low-fat probiotic yogurt were incorporated for nutritional support over one week (9). Although specific scientific evidence for such dietary recommendations in postpartum queens is limited, these measures were applied to promote maternal health and comfort. The queen's general condition post-procedure was

stable, with normalization of vital signs including heart rate and respiratory rate, and no evidence of complications such as active bleeding, uterine infection, pus, clots or abnormal lochia discharge.



**Figure 1.** Dead fetuses removed along with the placenta

Manual extraction, while less commonly applied, carries inherent risks that must be carefully considered. Potential fetal injuries include fractures, hypoxia due to prolonged manipulation, and hemorrhage (1). Moreover, incomplete delivery, characterized by retained fetal parts or placenta, can lead to severe uterine infection (metritis) and septicemia. In some cases, failure of manual extraction necessitates emergency cesarean section, which should be readily available if indicated. The selection of manual extraction over cesarean section depends on multiple clinical criteria, including fetal size and presentation, maternal pelvic dimensions, and overall health status of the queen. Manual extraction may be favored when fetuses are appropriately sized and positioned, and when surgical facilities or anesthesia pose significant risks or are unavailable. Conversely, cesarean section is indicated in cases of fetal distress, large or malpresented fetuses, or when manual methods fail.

Comparative literature suggests that cesarean section provides more predictable outcomes with reduced fetal trauma but is associated with surgical risks, higher costs, and longer recovery times (1). Manual extraction, when performed by experienced clinicians under aseptic conditions with proper monitoring, can be an effective alternative with fewer procedural complications.

This case emphasizes the importance of individualized treatment planning, considering both the clinical scenario and available resources, to optimize maternal and fetal outcomes in feline dystocia management.

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## Authors' Contributions

**Behrooz Mihandoost:** conceived and planned the research, contribute to the interpretation of the results. **Mohammad Saleh Fathi Saghezchi:** contributed to sample preparation and interpretation of the results.

## Data Availability

All data generated during this case report are included in the published article. Additional information is available from the corresponding author upon reasonable request.

## Ethical Approval

The procedure was conducted in accordance with the ethical guidelines for the use of animals in clinical practice.

## Conflict of Interest

The authors declare that they have no conflict of interest.

## Consent for Publication

Not applicable

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